Ham-Space Digest   Mon, 15 Aug 94   Volume 94 : Issue 226

Today's Topics:
                         PERSEIDS ON HF
                REJECTED: Ham-Space Digest V94 #225

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Sun, 14 Aug 94 02:32:00 -0600
From: netcomsv!netcomsv!aquila!alan.lyday@decwrl.dec.com
Subject: PERSEIDS ON HF
To: ham-space@ucsd.edu

AI> What's the best frequency (and any tips) to hear Perseid meteors on
AI> receivers?

Hello David, Well during some if not most of the Meteor events here in
the States I've used the FM Broadcast band 88-108 Mhz and Tune in
stations that are over the Horizon. As for HF Frequencys during the
major Meteor Events like the Perseid's Ive also detected Propagation
Beacons on the 10 Meter band 28.2-28.3 these are almost always low power
simple antennas. With these if the Band is dead You can sometimes hear
them Ping out of the Noise for as long as several Minutes.   GL.
 * RM 1.3 00559 * RoboMail -- The ultimate QWK compatible message manager.

Date: 14 Aug 94 13:26:54 GMT
From: news-mail-gateway@ucsd.edu

Subject: REJECTED: Ham-Space Digest V94 #225
To: ham-space@ucsd.edu

    ----- Mail rejected by CEO. -----
No Routing Link Available   Mail not sent to:gary rogers@dgc.ceo

    ----- Unsent message follows -----
From: ham-space@UCSD.EDU
To: Ham-Space@UCSD.EDU
Subject: Ham-Space Digest V94 #225
X-Ceo_Options: Document

CEO comments:
See document for message.

CEO document contents:

Ham-Space Digest   Sun, 14 Aug 94   Volume 94 : Issue 225

Today's Topics:
                         2 meter CW uplink
               APT-Satellites: Report AUG 07, 1994
                    Galileo SL-9 Impact Image
              Homebrew Global Positioning System (GPS)
                       Question on AO-21
                 Where to find Satellite Freqs-Info

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 12 Aug 1994 17:02:16 GMT
From: ihnp4.ucsd.edu!library.ucla.edu!agate!howland.reston.ans.net!gatech!kd4nc!
ke4zv!gary@network.ucsd.edu
Subject: 2 meter CW uplink
To: ham-space@ucsd.edu

In article <3260es$h9g@hatch.sonalysts.com> gerheim@sonalysts.com (Al Gerheim)
writes:
>
>Some authors have recommended using an FM HT for a CW uplink on 2 meters.
>the problem with this is that many HT's take about 200 msec. to generate
>a carrier from the time they are keyed on. This makes the CW uninteligable.
>I also own a 20 watt amp for the HT, and would like to know if there's a way
>to key the amp, or even key the RF going *to* the amp. I feel I'm within
>a few $ of a decent 2 meter uplink, but can't get the pieces together.

A MOPA set. :-)

Sure you can key the amplifier. Key just the PA transistor B+ unless you
like to hear relays clank. You'll have to manually TR. You'll likely need
a click filter in the keying line and a key that can handle 3 or 4 amps.
Old Navy keys with coin silver contacts would be ideal. A multistage amp
would be easier, you could just key the driver rather than the PA and
have to switch less current.

Gary

--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | uunet!rsiatl!ke4zv!gary
534 Shannon Way | Guaranteed! | emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244 | | gary@ke4zv.atl.ga.us

Date: 8 Aug 1994 07:13:53 GMT
From: lll-winken.llnl.gov!uwm.edu!psuvax1!news.pop.psu.edu!news.cac.psu.edu!
newsserver.jvnc.net!nntp.gmd.de!oskar.gmd.de!user@ames.arpa
Subject: APT-Satellites: Report AUG 07, 1994
To: ham-space@ucsd.edu

Observed at station 50.7 NLat, 7.1 ELon, AUG 07, 1994

NOAA-9:   APT 137.62 *OFF*
NOAA-10:   APT 137.50 On
NOAA-11:   APT 137.62 On
NOAA-12:   APT 137.50 On
Meteor 3-5: APT 137.85 On

NOAA-9 remains off due to VHF-conflict with NOAA-11.
I did not check for Meteor 2-21, but it should be off
(I had to disconnect the receiver due to thunderstorm).

+--+

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|Peter Henne (peter.henne@gmd.de)        |
|             (henne@gmd.de)             |
|German Nat.Research Center.f.Comp.Science |
|D-53754 St.AUGUSTIN, Germany            |
+----------------------------------------+
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Date: 12 Aug 1994 16:47 EDT
From:
library.ucla.edu!csulb.edu!nic-nac.CSU.net!usc!howland.reston.ans.net!gatech!news-
feed-1.peachnet.edu!news.duke.edu!eff!cs.umd.edu!newsfeed.gsfc.nasa.gov!nssdca
.gsfc.nasa.@ihnp4.ucsd.edu
Subject: Galileo SL-9 Impact Image
To: ham-space@ucsd.edu

          FIRST GALILEO SL-9 "JAILBAR" IMAGE AVAILABLE AT THE NSSDC

The National Space Science Data Center (NSSDC) at NASA's Goddard Space Flight
Center is pleased to announces the availability of the latest Comet
P/Shoemaker-Levy 9 impact images taken by the Galileo spacecraft.

The images can be obtained using the World Wide Web (WWW) via the URL below.

          http://nssdc.gsfc.nasa.gov/sl9/comet_images.html

As of 4:00pm EST, August 12, 1994 we only have the first "Jailbar" image, but
we will be providing the full resolution images as soon as they become
available.

Syed S. Towheed
Systems Programmer
Hughes STX Corp.

>>
National Space Science Data Center   Phone:(301)286-6695
NASA Goddard Space Flight Center   Fax:(301)286-1635
Greenbelt, MD 20771, USA   E-mail:request@nssdca.gsfc.nasa.gov

http://www.gsfc.nasa.gov/nssdc/nssdc_home.html
>>

Date: Sat, 13 Aug 1994 08:25:14 GMT
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!

swrinde!emory!rsiatl!ke4zv!gary@network.ucsd.edu
Subject: Homebrew Global Positioning System (GPS)
To: ham-space@ucsd.edu

In article <32ggg8$hsh@hollywood.cinenet.net> maustin@hollywood.cinenet.net (Mark
Austin) writes:
>
>I had an idea. How about linking up a GPS with a cellular phone and
>a large battery to power both for a couple of days. Then dial a number
>on the cellular where you want the GPS to send it's location info and
>drop the whole bundle into someone's car. Since GPS info can be used
>with several very cheap street mapping systems (Delorme for one) you'll
>be able to sit at home and watch them driving down the street on
>your home computer. Should be able to do this cheap. A couple of
>hundred dollars (with cheap GPS and cheap phone). I have no ideas
>on keeping cellular costs down though. One thought would be to set
>the phone to answer and power up the whole gizmo and then shut down
>after a call is placed into it. You wouldn't get a continuous
>signal but you'd be able to find where someone is on demand (if they're
>within cellular calling range). Such a setup could last for a LONG
>time with the proper battery.

You aren't going to be able to get a GPS and cell phone for a couple
hundred dollars. The cheapest GPS receivers are around $400, and so
are cell phones unless you roll their cost into a long term service
contract. And monthly and per minute cell phone charges will mount
up fairly rapidly. By using packet radio, amateur or commercial,
you can send position updates on a regular basis without incurring
quite as much cost.

DeLorme Mapping and City Streets are a couple of commercial map
systems that work with GPS. However, APRS (Automatic Packet Reporting
System) is in some ways better. While it lacks the friendly user
interface of the commercial products, and it's pre-made map databases
are skimpy, you can make your own maps, and it works with local and
remote GPS receivers (using packet UI frames for the latter). It also
supports other information about the remote sites such as range and
bearing data from DF equipment, and arbitary text messages.

However, what many of us want is *differential* GPS. The Coast Guard,
FAA, and others send out position deltas from a fixed benchmark
receiver that are received and used to correct the reading of the local
GPS receiver. These transmissions are either at MF or VHF depending on
the system. A special receiver is required, and either a GPS receiver
designed to work with differential signals, or a PC that can take the
timestamped position reports and reconcile them via software, is used
to give a true position. This method removes the deliberate SA jitter,
and other error sources such as varying atmospheric propagation factors,

from the position data. This allows much greater precision in determining
location than raw GPS alone.

It would be nice if the APRS author would support this mode in his
software. Some of us are willing to set up benchmark receivers on
the amateur bands. That timestamped data could be used to correct
the positions reported by the rover receivers over packet.

Gary
--
Gary Coffman KE4ZV | You make it, | gatech!wa4mei!ke4zv!gary
Destructive Testing Systems | we break it. | uunet!rsiatl!ke4zv!gary
534 Shannon Way | Guaranteed! | emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244 | | gary@ke4zv.atl.ga.us

Date: Mon, 8 Aug 1994 01:34:35 GMT
From: agate!howland.reston.ans.net!math.ohio-state.edu!magnus.acs.ohio-state.edu!
csn!dora!etuggle@ames.arpa
Subject: Question on AO-21
To: ham-space@ucsd.edu

I'm kinda new to amateur radio and OSCAR. I am interested in using AO-21.
I've been doing some reading about the LEO sats, and most of the information
I've read indicate one should be able to work them with a vertical. I have
however, been having a few problems. So, I thought I'd post a question or
two.

Is it realistic to expect to work AO-21 with the following setup?

        Icom 21WAT (modified to xmit 432-)
        20 Watt amp
        Dual band "Vent" antenna. (looks like a roof vent pipe)

Let me add I can copy AO-21 VERY well!! My guess is I'll need more than
20 watts. I am thinking about replacing the "Vent" antenna with a J-pole
(the one described in the ARRL Handbook). The only problem there is that
I would have to mount the antenna in the attic. (I live in a very restrictive
area)

Like I said, my guess is I need more power. I hate to go out and buy a
big amp if this isn't going to solve the problem however.

Does anyone have any experience working AO-21 with a vertical? If so
how much power should I expect it to take? Anyone using the dual band
J-Pole from the ARRL handbook inside an attic?

Thanks in advance for any help anyone can offer.

73,
Eddie
KB0LZZ, Parker CO

--
Eddie D. Tuggle, etuggle@dora.auc.trw.com | "There is nothing either good or
TRW Denver Operations | bad, but thinking makes it so."
16201 Centretech Pky / Aurora, CO 80011 | -- SHAKESPEARE
Voice: 303.360.4001 FAX: 303.360.4133 |

Date: Thu, 11 Aug 1994 14:45:55 -0700
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!swrinde!elroy.jpl.nasa.gov!lll-
winken.llnl.gov!apple.com!goofy-2.apple.com!user@network.ucsd.edu
Subject: Where to find Satellite Freqs-Info
To: ham-space@ucsd.edu

I am new to this field and have some questions. I would like to know where
I can find a listing of all satellites and their frequencies. I have been
using Orbitrack to visually locate some satellites but would like to use my
scanner to listen in. Eventually, I will upgrade to a ground station. What
magazines are best for general satellite info.

Thanks..

Date: 13 Aug 1994 16:12:13 GMT
From: illuminati.io.com!news.tamu.edu!gerry@uunet.uu.net
To: ham-space@ucsd.edu

References <32bqoe$ur@eis.calstate.edu>, <32ggg8$hsh@hollywood.cinenet.net>,
<1994Aug13.082514.868@ke4zv.atl.ga.us>
Subject : Re: Homebrew Global Positioning System (GPS)

In article <1994Aug13.082514.868@ke4zv.atl.ga.us>,
Gary Coffman <gary@ke4zv.atl.ga.us> wrote:
>In article <32ggg8$hsh@hollywood.cinenet.net> maustin@hollywood.cinenet.net (Mark
Austin) writes:
>>
>>I had an idea. How about linking up a GPS with a cellular phone and
>>...
>>signal but you'd be able to find where someone is on demand (if they're
>>within cellular calling range). Such a setup could last for a LONG
>>time with the proper battery.

Everyone should have an idea occasionally... :=)

Well, this is, unfortunately, not a new idea. The similar systems I'm already
familiar with sell for ~$2000, which tells me that they are costing about $1k
for hardware PLUS s/w and R&D.And don't have much markup.

>You aren't going to be able to get a GPS and cell phone for a couple
>hundred dollars. The cheapest GPS receivers are around $400, and so
>are cell phones unless you roll their cost into a long term service
>contract. And monthly and per minute cell phone charges will mount
>up fairly rapidly. By using packet radio, amateur or commercial,
>you can send position updates on a regular basis without incurring
>quite as much cost.

Actually, if you shop carefully, the DGPS without a fancy display costs $318.
Quantity 1. It's a Motorola VP Encore core modure, and it runs on 5 VDC
(regulated), puts out TTL levels, and can receive RTCM-104S differential
updates with Option B installed (for no cost, I might add!). Further, with
Option B, it will put out the differential correction data, acting as a
reference station, albeit in Motorols Proprietary Binary format. The
developers' manual has the full data format, making translation to the
standard format pretty straightforward.

The cellphone could be the hard part, from a cost perspective. I've not
looked into that, because there aren't too many cell sites near the ranch I'm
where I'm putting GPS's on cows.

>DeLorme Mapping and City Streets are a couple of commercial map
>systems that work with GPS. However, APRS (Automatic Packet Reporting
>System) is in some ways better. While it lacks the friendly user
>interface of the commercial products, and it's pre-made map databases
>are skimpy, you can make your own maps, and it works with local and
>remote GPS receivers (using packet UI frames for the latter). It also
>supports other information about the remote sites such as range and
>bearing data from DF equipment, and arbitary text messages.

Very true. In fact, it's seriously impressed the GIS institute here at Texas
A&M (Nice Job, Bob!).

>However, what many of us want is *differential* GPS. The Coast Guard,
>FAA, and others send out position deltas from a fixed benchmark
>receiver that are received and used to correct the reading of the local
>GPS receiver. These transmissions are either at MF or VHF depending on
>the system. A special receiver is required, and either a GPS receiver
>designed to work with differential signals, or a PC that can take the
>timestamped position reports and reconcile them via software, is used
>to give a true position. This method removes the deliberate SA jitter,

>and other error sources such as varying atmospheric propagation factors,
>from the position data. This allows much greater precision in determining
>location than raw GPS alone.

Er. Ah. See above. Differential is getting easier and cheaper. A local ham
club could go together, get a cheap GPS core, throw together an embedded PC
clone for translation, and broadcast the results on packet. Now, if you want
to get really fancy, use carrier-phase to get the roaming units a little
smoother, AND incorporate DGPS.

>It would be nice if the APRS author would support this mode in his
>software. Some of us are willing to set up benchmark receivers on
>the amateur bands. That timestamped data could be used to correct
>the positions reported by the rover receivers over packet.

And, of course, if you want to, one can log DGPS corrections over a local area
and post-process the logged fixes from the mobile units, to give DGPS
corrected data. That's one of the standard methods used today. I don't
personally think APRS is the appropriate place for DGPS post-processing
corrections...

73, gerry
Gerry Creager N5JXS
gerry@cs.tamu.edu
****
Cows In Space: Bovine location services with sub-bovine accuracy.
--
Gerry Creager N5JXS   * SAREX Co-Investigator
gerry@cs.tamu.edu   *   A little radio that lets kids talk
gcreager@gothamcity.jsc.nasa.gov *   to astronauts, and smile
****

End of Ham-Space Digest V94 #225
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Date: Sat, 13 Aug 1994 20:20:11 GMT
From: ihnp4.ucsd.edu!sdd.hp.com!math.ohio-state.edu!usc!howland.reston.ans.net!
europa.eng.gtefsd.com!library.ucla.edu!csulb.edu!csus.edu!netcom.com!
btoback@network.ucsd.edu
To: ham-space@ucsd.edu

References <32ggg8$hsh@hollywood.cinenet.net>,
<1994Aug13.082514.868@ke4zv.atl.ga.us>, <32irct$f3u@news.tamu.edu>.g
Subject : Re: Homebrew Global Positioning System (GPS)

In article <32irct$f3u@news.tamu.edu> gerry@cs.tamu.edu (Gerald J Creager) writes:
>[Gary Coffman writes]:
>>You aren't going to be able to get a GPS and cell phone for a couple
>>hundred dollars. The cheapest GPS receivers are around $400, and so
>>are cell phones unless you roll their cost into a long term service
>>contract.
>
>Actually, if you shop carefully, the DGPS without a fancy display costs $318.
>Quantity 1. It's a Motorola VP Encore core modure, and it runs on 5 VDC
>(regulated), puts out TTL levels, and can receive RTCM-104S differential
>updates with Option B installed (for no cost, I might add!). Further, with
>Option B, it will put out the differential correction data, acting as a
>reference station, albeit in Motorols Proprietary Binary format. The
>developers' manual has the full data format, making translation to the
>standard format pretty straightforward.

Where can I get more information about this device and the developers'
manual? This sounds very interesting!
>
>The cellphone could be the hard part, from a cost perspective.

In California, various places are selling the bottom-of-the-line Motorola
portable cellphone for $100, with no activation required. (CA has a law
prohibiting anyone from requiring the purchase of cellular service with
a phone. However, you do get a VERY nasty look from the salesperson
when you say "No, I just want the phone.") It's almost getting to the
point where it's worth investigating what it would take to put one of
those phones on the 900 MHz ham band.

Incidentally, one of the earlier posters in this thread mentioned tracking
vehicles using the GPS/cellphone system. We had a demonstration here a
couple of months ago in which a ham put a GPS/APRS system in his wife's
car, and produced the resulting map for the local packet users group. The
map provided an every-two-minutes location for the car for an entire
day.

-- Bruce KN6MN

End of Ham-Space Digest V94 #226
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